

# Human Systems Performance - Assessment Capability (HSP-AC)



## Overview Briefing for Undersea HHS Symposium 07 June 2006

Presented by: George Hughes



# Human System Performance (HSP) Assessment Capability

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## CNO Guidance 2004

***“Speed the Sea Warrior revolution in training...”***

- ***Further embed the Human Performance Systems Model into every Navy acquisition and R&D program.”***

**A Focused, Enterprise-Wide, Comprehensive  
Response to CNO Guidance**



# Human System Performance (HSP) Assessment Capability

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## *The Mission of the Navy's*

### *Human Systems Performance Assessment Capability*

*is to enhance Fleet readiness and operational effectiveness at the lowest total ownership cost by providing the personnel, expertise, equipment, connectivity, tools, models, environments, and alliances necessary to develop human performance solutions as well as to measure, analyze, and certify warfighter-system performance across all phases of the lifecycle.*

**United Goal ... United Approach ... United Team**

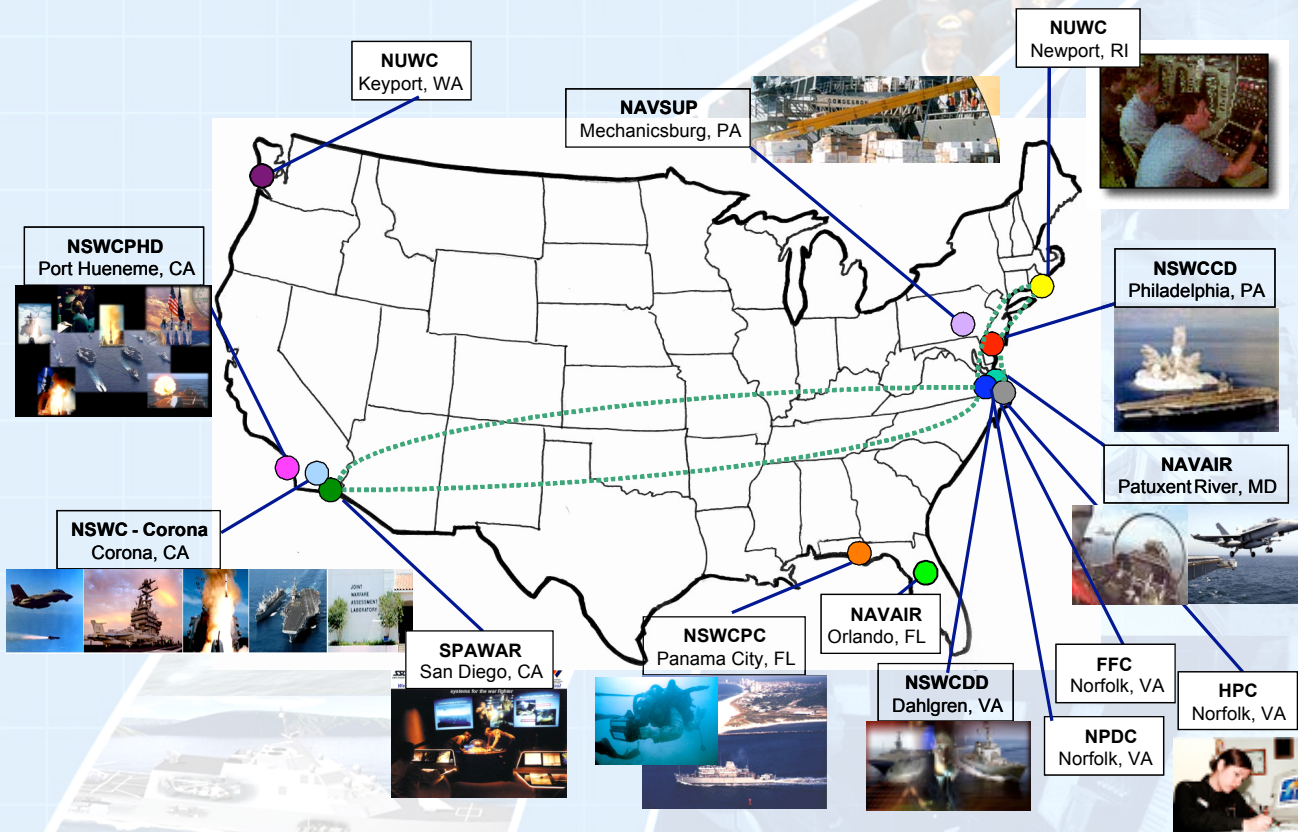




# HSP Assessment Capability

## FY 05/06 OBJECTIVES

- **Human Performance Analysis**
  - Requirements Definition
  - Human Performance in AoA
  - Other HP Front-end Analyses
- **HSI Common Infrastructure**
  - Common, Shared HSI Toolset
  - Common Simulation Environment
  - Connectivity Among Sites
  - HSP Data Repository
  - Mobile Capability
  - Sea Warrior Integration
  - Available to Industry
- **Total System Support**
  - Total System Interoperability
  - Impact of KSAs, Workload, and Human Error
  - Specific Metrics Incorporated Into DT/OT Assessments
- **Human Performance Testing**
  - Usability Engineering
  - FORCEnet
  - Major Programs Work Initiated
  - Measure, Test, & Certify



**A Consistent, Repeatable, NAVY Enterprise Approach  
for Human Performance Measurement**



# HSP-AC Features

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- Optimized Manning

System analysts can now empirically assess and trade-off crew manpower levels, knowledge, skills, abilities, and workload in order to optimally meet mission requirements and more accurately predict total system life-cycle costs.

- Certification

A virtual environment and expert HSP team, along with proven processes and tools, will be available to assist government and contractor testing, evaluation, and certification activities.

- Common Standards

For the first time, common human performance standards, processes, metrics, and tools can be used to establish system requirements, evaluate design concepts, test prototypes, develop manpower and training plans, assess human performance, and carry out system certifications.

- Shared Data

Sea Warrior product developers can utilize a new, growing repository for HSP metrics, procedures, and tools to improve integration results.

**Systems That Meet Fleet Needs and  
Performance Expectations**



# HSP-AC Benefits

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- **Maximized Performance**

Early analysis of required human performance will facilitate improved manpower plans, focused training, reduction of potential human errors, and decreased “after delivery” software re-work.

- **Improved Skills**

Utilization of commonly understood and available HSP metrics and tools will lead to improved skills and Warfighter performance validations.

- **Reduced Costs**

Integration problems and interoperability issues are dramatically reduced when requirements, design, and test teams all utilize the same, proven HSP metrics, reducing overall acquisition costs.

- **Best Practices**

Support for community-wide sharing of metrics, tools, and procedures will provide an opportunity for establishment of HSP best practices and process improvements.

**Enterprise Solution for Human Performance**



# HSP-AC Supports ...

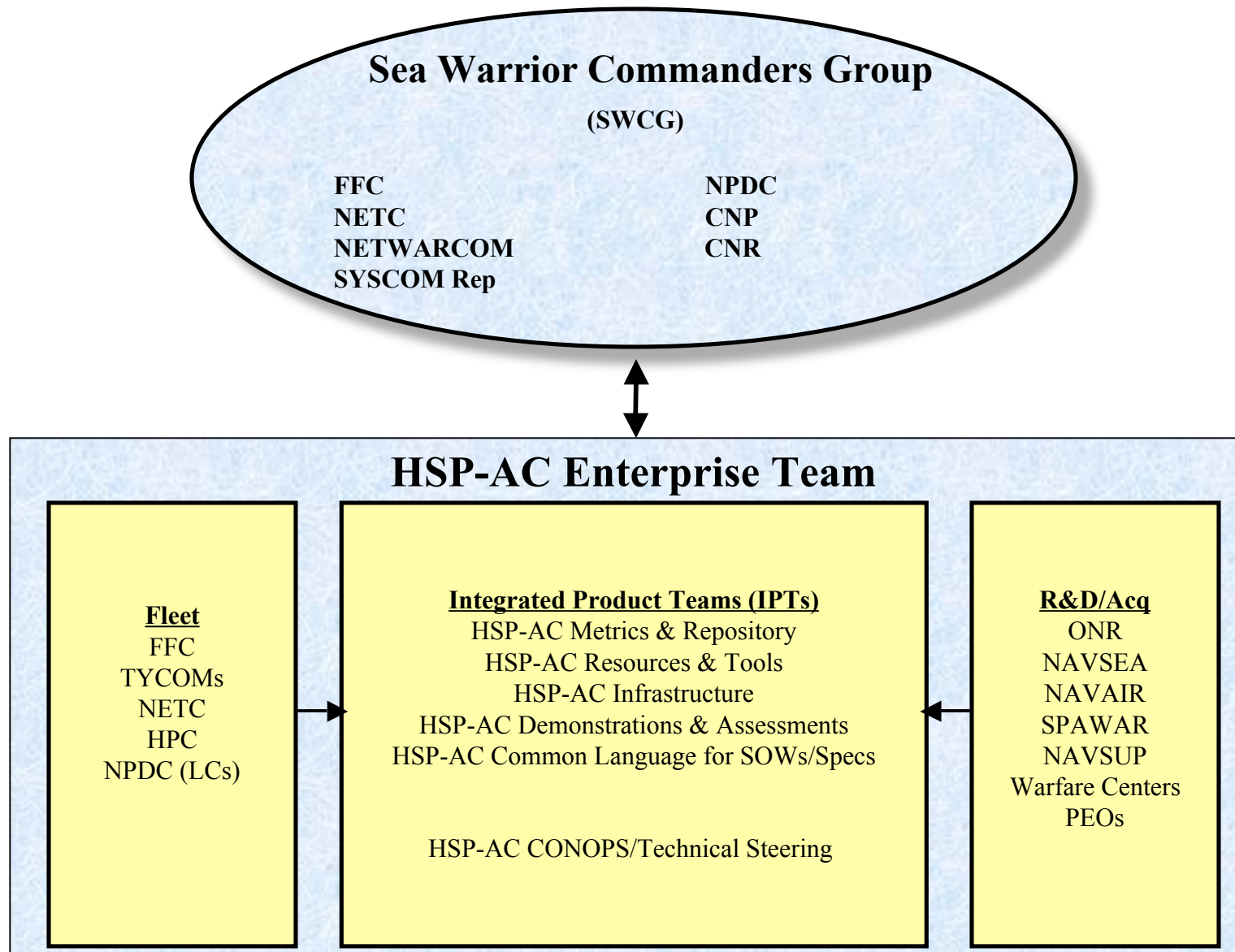
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- 2005 DoN Objectives:
  - ✓ “Pursue strategies to reduce overall manpower costs while improving effectiveness / personnel satisfaction”
  - ✓ “Maximize Joint Warfighting Interoperability”
- CNO 2005 Guidance:
  - ✓ “Provide Sailors with the professional tools they need to be successful”
  - ✓ “Build future ships to maximize human performance”
  - ✓ “Establish metrics for establishing the success of Human Systems Integration in the acquisition process”
  - ✓ “Accelerate the rate at which R&D and experimentation reaches the Fleet”

**Helping to Meet the Needs of Today's  
and Tomorrow's Navy**



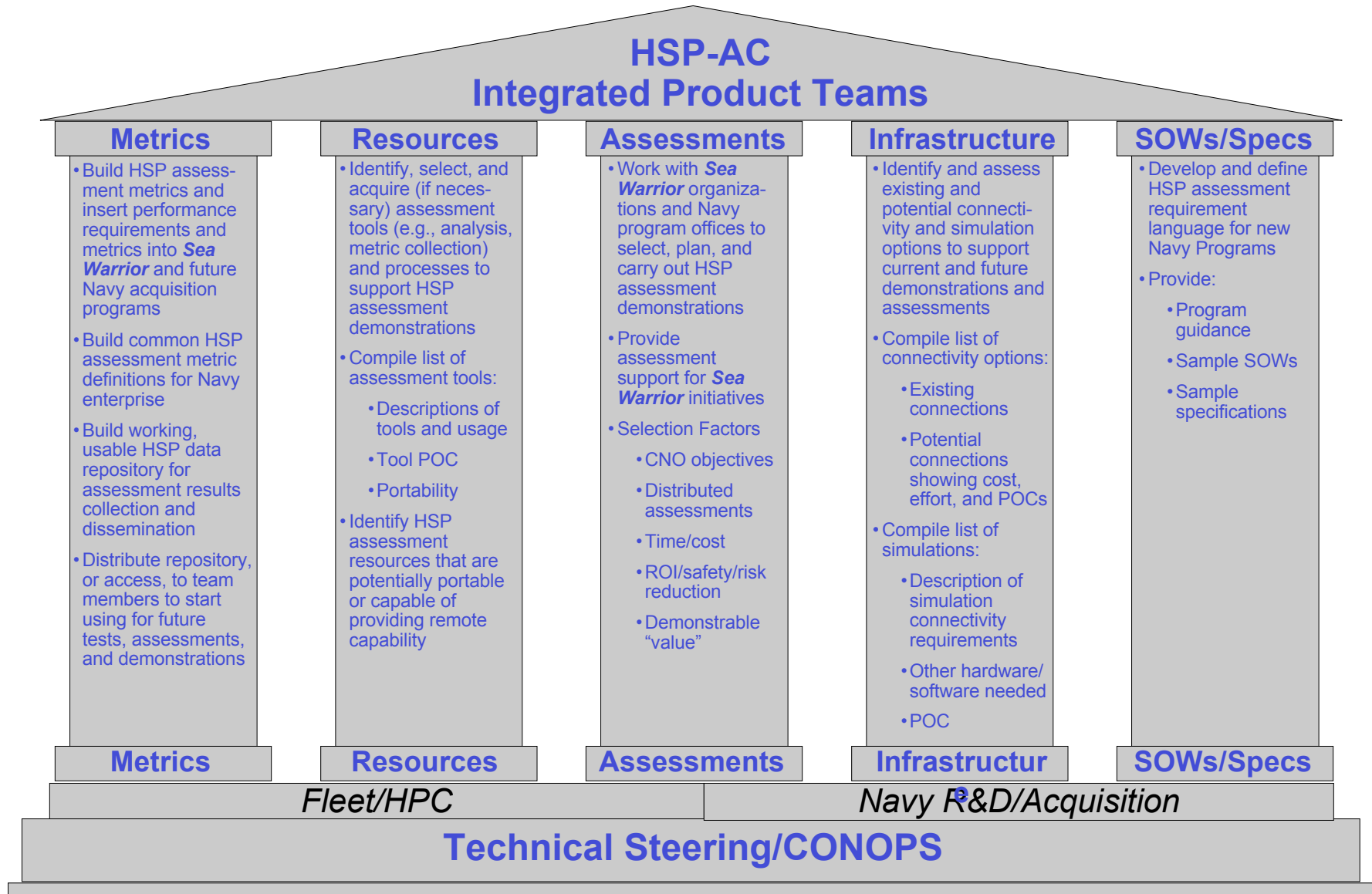
# HSP-AC Governance







# HSP-AC IPTs





# IPT 4 Assessments

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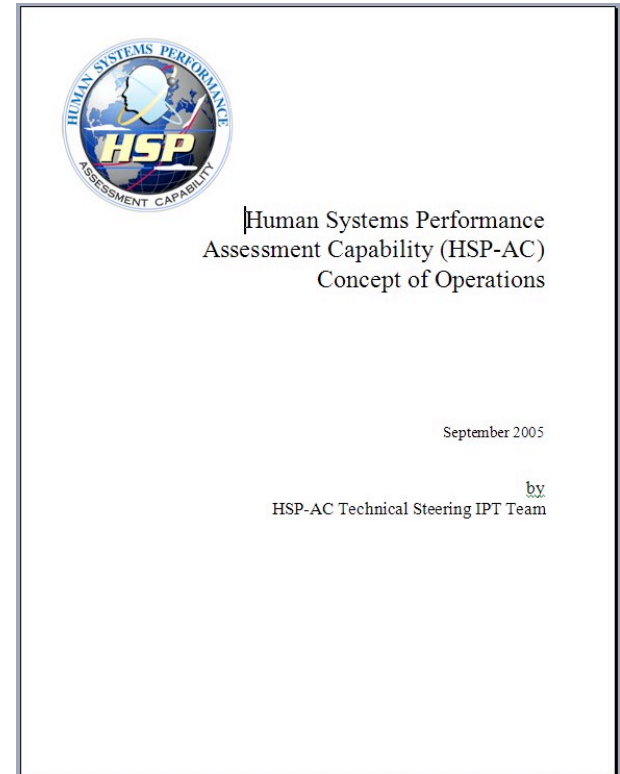
- Key Deliverables/Products
  - Maritime Chat Requirements and Guidelines
    - Summary document of step outcomes in the form of chat lessons learned and guidelines that support Maritime operations.
  - Trident Warrior (TW) 05 Support
    - Lessons learned that support Sea Trial and other field experimentation events
  - TW 06 Cognitive Limited Objective Experiment
    - Collection of methods, processes, and guidelines that reduce the risk of technology-only oriented limited objective experiments
  - Maritime Dominance Awareness (MDA)/Common Operation Picture (COP)
    - Design strategies and recommendations for large-scale track management
  - Sea Warrior (SW)/Integrated Shipboard Learning Environment (ISLE)
    - Empirical data that supports tailored, on-line delivery methods that address skill gaps introduced in an afloat environment



# CONOPS & OV's

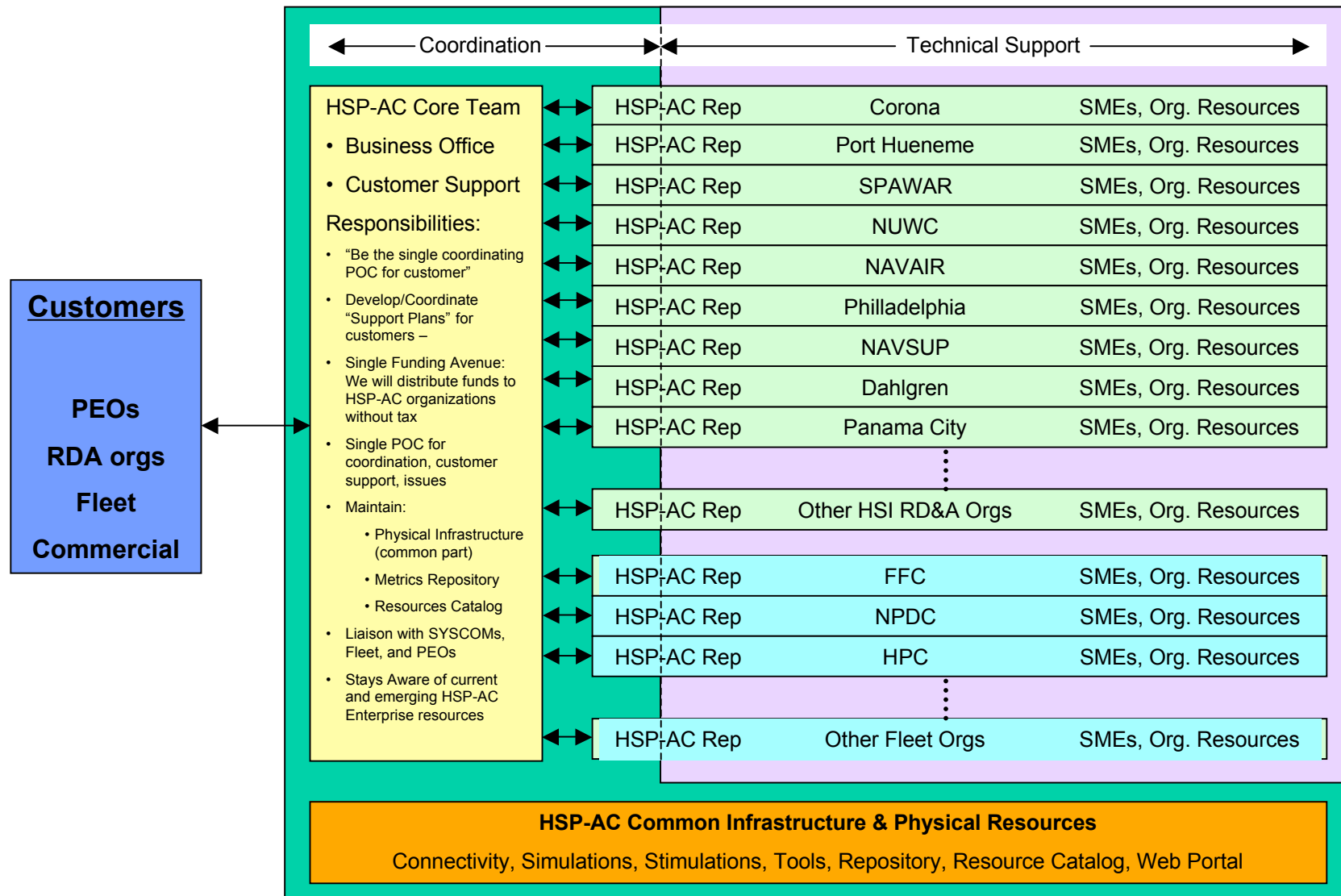
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- CONOPS
  - Draft version in PM Notebook
  - Highlights on Next Page
- Operational Views (OV's)
  - Will be totally integrated and consistent with HSI IA
  - Being developed same team working HSI Integrated Architecture (IA)
  - Will be delivered by end of Q3 FY06





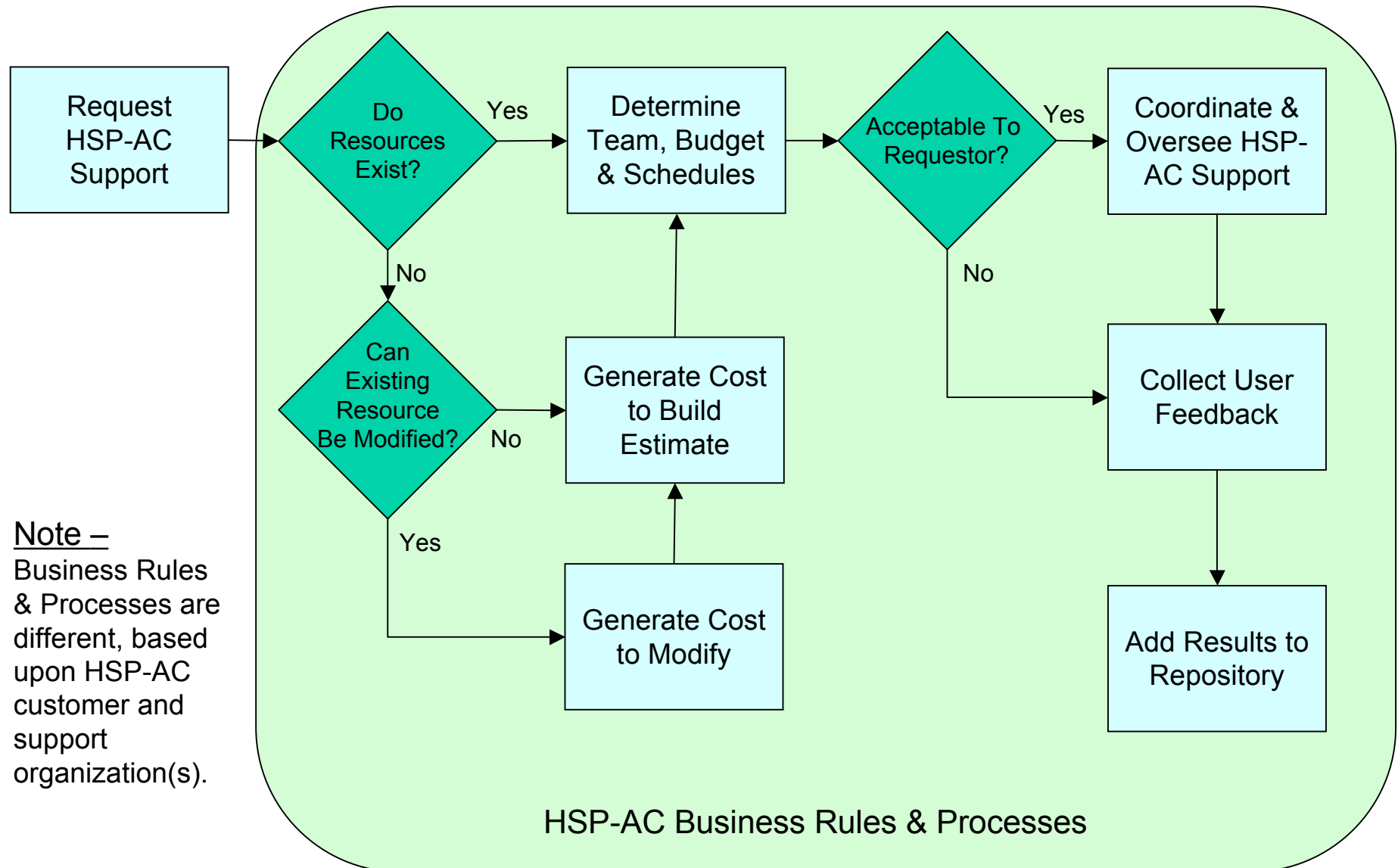
# High Level Overview







# HSP-AC Support Request





# HSP-AC Resources Web Portal

## HSP-AC Resource Catalog (w/Metadata)

- SMEs
- HSI Labs
- Tools
- Simulations
- Best Practices
- Lessons Learned

## Business Rules for:

- Access
- Searching
- Depositing
  - Editing
- Deleting
- Scheduling

## HSP-AC Repository (w/Metadata)

- Metrics
  - Definitions
  - Usage Examples
- Assessment Results
- Reports

## Metadata for Searching & Cataloging

POC Information  
Resource Classifications

Usage History  
Usage Evaluations



# HSPAC Benefits & Capabilities

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- Assess NCW and other new concepts in a distributed environment
  - Leverage different lab expertise and foci
- Test different manpower levels and configurations
  - More accurate performance estimates
  - More accurate life-cycle costs
- Validate distributed training systems and support Sea Warrior initiatives
- Provide a certification environment
- Be a “one-stop shop” for assessment metrics, methods, and solutions
- Provide an integrated, shared repository of research, exercises, and lessons learned
- Minimize redundancy of effort at different labs; maximize visibility of effort
- Focus on showing ROI/Value with metrics as proof

**Support across system life-cycle**



# Summary

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- Established by CNO Directive
- Navy-wide Enterprise solution to support assessment and certification activities
- Includes HSP support for all Navy domains (i.e. Fleet & Acquisition) and all phases of a system or capability
- Bringing “*Best Athletes and Resources*” to help improve sailor and system performance